

WHAT IS CLAIMED IS:

- 1 1. A wheel assembly comprising:
2 a rim having first and second circumferential edges defining a trough
3 portion therebetween;
4 a plurality of spaced protrusions disposed in the trough portion
5 between the first and second circumferential edges;
6 a resilient member disposed over the plurality of spaced protrusions;
7 and
8 an actuator disposed over the resilient layer;
9 wherein the actuator is adapted to at least partially compress the
10 resilient layer between the spaced protrusions when the wheel assembly is loaded with a
11 weight.

- 1 2. The wheel assembly as in claim 1 wherein the plurality of spaced
2 protrusions are positioned to define at least two circumferential rings of protrusions.

- 1 3. The wheel assembly as in claim 1 wherein the resilient member is
2 coupled to the first and second circumferential edges.

- 1 4. The wheel assembly as in claim 1 wherein the resilient member
2 comprises an upper surface and a lower surface, the lower surface comprising a plurality of
3 raised ridges, the raised ridges positioned to be in cooperation with the plurality of spaced
4 protrusions.

- 1 5. The wheel assembly as in claim 4 wherein the resilient member upper
2 surface comprises a second plurality of raised ridges in cooperation with the actuator.

- 1 6. The wheel assembly as in claim 1 wherein the resilient member is in
2 cooperation with the first and second circumferential edges to define a generally
3 hermetically-sealed chamber.

- 1 7. The wheel assembly as in claim 1 wherein the actuator comprises a
2 generally cylindrical-shaped band, the band having a plurality of spaced apart holes formed
3 therethrough.

1 8. The wheel assembly as in claim 7 wherein the spaced apart holes are
2 positioned to be in cooperation with the plurality of spaced apart protrusions.

1 9. The wheel assembly as in claim 8 wherein the spaced apart protrusions
2 are adapted to extend at least part way into the spaced apart holes of the actuator when the
3 wheel assembly is loaded with the weight.

1 10. The wheel assembly as in claim 8 wherein the resilient member is
2 adapted to stretch at least part way into at least some of the spaced apart actuator band holes
3 when the wheel assembly is loaded with the weight.

1 11. The wheel assembly as in claim 10 wherein the resilient member is
2 adapted to recede from the at least some spaced apart actuator band holes when the loaded
3 weight on the wheel assembly is removed.

1 12. The wheel assembly as in claim 1 wherein the resilient member
2 comprises a rubber.

1 13. The wheel assembly as in claim 1 further comprising a traction layer
2 disposed over the actuator.

1 14. The wheel assembly as in claim 1 wherein the rim trough portion has a
2 plurality of spaced holes adapted to fixedly receive the spaced protrusions.

1 15. The wheel assembly as in claim 1 wherein a height of at least some of
2 the spaced protrusions is separately adjustable.

1 16. The wheel assembly as in claim 1 further comprising a coupling device
2 for coupling the resilient member to the rim.

1 17. The wheel assembly as in claim 16 wherein the coupling device
2 comprises a flexible strip having a plurality of spaced extensions extending therefrom.

1 18. The wheel assembly as in claim 17 wherein the plurality of spaced
2 extensions are adapted to be received in a plurality of spaced holes in the rim.

1 19. The wheel assembly as in claim 18 wherein the plurality of spaced
2 holes are disposed in the first and second circumferential edges.

1 20. The wheel assembly as in claim 16 wherein the coupling device
2 comprises a first flexible strip for coupling a first edge portion of the resilient member to the
3 first circumferential edge, and a second flexible strip for coupling a second edge portion of
4 the resilient member to the second circumferential edge.

1 21. A wheel assembly comprising:
2 a rim having a plurality of spaced protrusions adjustably coupled
3 thereto;
4 a resilient member disposed over the plurality of spaced protrusions;
5 a means for coupling the resilient member to the rim; and
6 an actuator disposed over the resilient layer;
7 wherein the actuator is adapted to at least partially compress the
8 resilient layer between at least some of the spaced protrusions.

1 22. The wheel assembly as in claim 21 wherein the plurality of spaced
2 protrusions are disposed between first and second outer edges of the rim, the resilient
3 member coupled to the first and second outer rim edges.

1 23. The wheel assembly as in claim 22 wherein the resilient member
2 comprises a compressible rubber.

1 24. The wheel assembly as in claim 22 wherein the means for coupling
2 comprises a flexible strip having extensions disposed through cooperating holes in the
3 resilient member and the rim.

1 25. The wheel assembly as in claim 22 wherein the means for coupling
2 comprises a stitching.

1 26. The wheel assembly as in claim 22 wherein the means for coupling
2 comprises an adhesive.

1 27. The wheel assembly as in claim 22 wherein the actuator and resilient
2 member are each generally circular in cross-section, and wherein the actuator has a greater
3 hoop strength than the resilient member.